

## SEQUENCE PROTOCOL

5 <110> Degussa-Hüls AG  
 Forschungszentrum-Jülich GmbH  
 <120> New nucleotide sequences coding for the thrE gene and process  
 for the enzymatic production of L-threonine with coryneform  
 bacteria.  
 10 <130> 990079 BT  
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 <170> Patent Proprietor Publication 2.1  
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 30 (A list of gene sequences is given at Line 30, German page 23 to Line  
 36, German page 31.)  
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 tcaagccaaa aaggggcatt ttcattaaga aaataccctt ttgacctggt gttattgagc 180  
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 gtacatcaca atggaattcg gggctagagt atctggtgaa ccgtgcataa acgacctgtg 360  
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 50 ctt cgt ggc cgc att tca aca gtt gac gct gca aaa gcc gca cct ccg 463  
 Leu Arg Gly Arg Ile Ser Thr Val Asp Ala Ala Lys Ala Ala Pro Pro  
 10 15 20  
 cca tcg cca cta gcc ccg att gat ctc act gac cat agt caa gtg gcc 511  
 55 Pro Ser Pro Leu Ala Pro Ile Asp Leu Thr Asp His Ser Gln Val Ala  
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 ggt gtg atg aat ttg gct gcg aga att ggc gat att ttg ctt tct tca 559  
 60 Gly Val Met Asn Leu Ala Ala Arg Ile Gly Asp Ile Leu Leu Ser Ser  
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 ggt acg tca aac agt gat acc aag gtg caa gtt cga gcg gtg acc tct 607  
 Gly Thr Ser Asn Ser Asp Thr Lys Val Gln Val Arg Ala Val Thr Ser  
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 65

0990079 BT

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 Ala Tyr Gly Leu Tyr Tyr Thr His Val Asp Ile Thr Leu Asn Thr Ile  
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15 gtt gac cgt ttg atc cgt tcc att cag gct ggt gct acc ccg cct gag 799  
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25 ggt ttc cct gtt gcg ttg ctt ggc tgg gca atg atg ggt ggc gct gtt 895  
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30 gct gtg ctg ttg ggt ggt gga tgg cag gtt tcc cta att gct ttt att 943  
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35 acc gcg ttc acg atc att gcc acg acg tca ttt ttg gga aag aag ggt 991  
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65 gtt gct ggc gtg ggt ttg ggc att cag ctt tct gaa atc ttg cat gtc 1279  
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30 tgg att gcc cgc agg cta cgt cgt cca cca cgc ttc aac cca tac cgt 1759  
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35 gca ttt acc aag gcg aat gag ttc tcc ttc cag gag gaa gct gag cag 1807  
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 Asn Lys Arg

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099079 BT

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&lt;210&gt; 2

&lt;211&gt; 489

&lt;212&gt; PRT

15 &lt;213&gt; Corynebacterium glutamicum ATCC14752

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 Asp Ile Leu Leu Ser Ser Gly Thr Ser Asn Ser Asp Thr Lys Val Gln  
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 85 90 95  
 35 Lys Met Pro Val Asn Val Phe His Val Val Gly Lys Leu Asp Thr Asn  
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 Phe Ser Lys Leu Ser Glu Val Asp Arg Leu Ile Arg Ser Ile Gln Ala  
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 Gly Ala Thr Pro Pro Glu Val Ala Glu Lys Ile Leu Asp Glu Leu Glu  
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 50 Ser Leu Ile Ala Phe Ile Thr Ala Phe Thr Ile Ile Ala Thr Thr Ser  
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 Phe Leu Gly Lys Lys Gly Leu Pro Thr Phe Phe Gln Asn Val Val Gly  
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 Gly Phe Ile Ala Thr Leu Pro Ala Ser Ile Ala Tyr Ser Leu Ala Leu  
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09963521.09204

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 405 410 415  
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 Gly Val Val Leu Gly Glu Trp Ile Ala Arg Arg Leu Arg Arg Pro Pro  
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	Pro Pro Ser Pro Leu Ala Pro Ile Asp Leu Thr Asp His Ser Gln Val	
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	Ala Gly Val Met Asn Leu Ala Ala Arg Ile Gly Asp Ile Leu Leu Ser	
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20	tca ggt acg tca aat agt gac acc aag gta caa gtt cga gca gtg acc	486
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	Ser Ala Tyr Gly Leu Tyr Tyr Thr His Val Asp Ile Thr Leu Asn Thr	
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	Glu Val Ala Glu Lys Ile Leu Asp Glu Leu Glu Gln Ser Pro Ala Ser	
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	Tyr Gly Phe Pro Val Ala Leu Leu Gly Trp Ala Met Met Gly Gly Ala	
	150 155 160 165	
55	gtt gct gtg ctg ttg ggt ggt gga tgg cag gtt tcc cta att gct ttt	822
	Val Ala Val Leu Leu Gly Gly Gly Trp Gln Val Ser Leu Ile Ala Phe	
	170 175 180	
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	185 190 195	
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	Gly Leu Pro Thr Phe Phe Gln Asn Val Val Gly Gly Phe Ile Ala Thr	
	200 205 210	
70	ctg cct gca tcg att gct tat tct ttg gcg ttg caa ttt ggt ctt gag	966
	Leu Pro Ala Ser Ile Ala Tyr Ser Leu Ala Leu Gln Phe Gly Leu Glu	
	215 220 225	
75	atc aaa ccg agc cag atc atc gca tct gga att gtt gtg ctg ttg gca	1014
	Ile Lys Pro Ser Gln Ile Ile Ala Ser Gly Ile Val Val Leu Leu Ala	
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ccg

1909

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&lt;210&gt; 4

&lt;211&gt; 489

&lt;212&gt; PRT

&lt;213&gt; Corynebacterium glutamicum ATCC13032

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&lt;400&gt; 4

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Ala Lys Ala Ala Pro Pro Pro Ser Pro Leu Ala Pro Ile Asp Leu Thr  
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Asp His Ser Gln Val Ala Gly Val Met Asn Leu Ala Ala Arg Ile Gly  
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20

Asp Ile Leu Leu Ser Ser Gly Thr Ser Asn Ser Asp Thr Lys Val Gln  
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Val Arg Ala Val Thr Ser Ala Tyr Gly Leu Tyr Tyr Thr His Val Asp  
 65 70 75 80

Ile Thr Leu Asn Thr Ile Thr Ile Phe Thr Asn Ile Gly Val Glu Arg  
 85 90 95

30

Lys Met Pro Val Asn Val Phe His Val Val Gly Lys Leu Asp Thr Asn  
 100 105 110

Phe Ser Lys Leu Ser Glu Val Asp Arg Leu Ile Arg Ser Ile Gln Ala  
 115 120 125

35

Gly Ala Thr Pro Pro Glu Val Ala Glu Lys Ile Leu Asp Glu Leu Glu  
 130 135 140

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Gln Ser Pro Ala Ser Tyr Gly Phe Pro Val Ala Leu Leu Gly Trp Ala  
 145 150 155 160

Met Met Gly Gly Ala Val Ala Val Leu Leu Gly Gly Gly Trp Gln Val  
 165 170 175

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Ser Leu Ile Ala Phe Ile Thr Ala Phe Thr Ile Ile Ala Thr Thr Ser  
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Phe Leu Gly Lys Lys Gly Leu Pro Thr Phe Phe Gln Asn Val Val Gly  
 195 200 205

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Gly Phe Ile Ala Thr Leu Pro Ala Ser Ile Ala Tyr Ser Leu Ala Leu  
 210 215 220

55

Gln Phe Gly Leu Glu Ile Lys Pro Ser Gln Ile Ile Ala Ser Gly Ile  
 225 230 235 240

Val Val Leu Leu Ala Gly Leu Thr Leu Val Gln Ser Leu Gln Asp Gly  
 245 250 255

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Ile Thr Gly Ala Pro Val Thr Ala Ser Ala Arg Phe Phe Glu Thr Leu  
 260 265 270

Leu Phe Thr Gly Gly Ile Val Ala Gly Val Gly Leu Gly Ile Gln Leu  
 275 280 285

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 5 Pro Asn Tyr Ser Ser Thr Phe Ala Arg Ile Ile Ala Gly Gly Val Thr  
 305 310 315 320  
 Ala Ala Ala Phe Ala Val Gly Cys Tyr Ala Glu Trp Ser Ser Val Ile  
 325 330 335  
 10 Ile Ala Gly Leu Thr Ala Leu Met Gly Ser Ala Phe Tyr Tyr Leu Phe  
 340 345 350  
 Val Val Tyr Leu Gly Pro Val Ser Ala Ala Ala Ile Ala Ala Thr Ala  
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 Thr Asn Gln Arg Phe Gly Asn Lys Arg  
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099634-09201  
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